Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C.

In the Matter of	)	
	)	
Improving Competitive Broadband Access to Multiple Tenant Environments	)	GN Docket No. 17-142
	)	
	)	
Petition for Preemption of Article 52 of the San Francisco Police Code Filed by the Multifamily Broadband Council	)	MB Docket No. 17-91

COMMENTS OF THE WIRELESS INFRASTRUCTURE ASSOCIATION

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INTRODUCTION AND SUMMARY

The Wireless Infrastructure Association ("WIA") [1] submits the following comments in response to the above-captioned *NPRM* seeking comment on actions to accelerate deployment within multiple tenant environments ("MTEs").[2] WIA's membership provides the backbone of our country's telecommunications capabilities—the infrastructure that delivers broadband to consumers, businesses, and more. WIA works to support the widespread deployment of wireless infrastructure in order to enable wireless broadband everywhere, including in MTEs. WIA appreciates the opportunity to comment in this proceeding as the Commission seeks to promote additional broadband deployment in MTEs that will advance the goals of its 5G FAST Plan[3] and expand broadband availability.

Accelerating broadband deployment to MTEs, which include such densely populated structures as apartments, condominiums, office buildings, and shopping malls, where millions of Americans live, work, and play,[4] is a laudable goal. MTEs are growing in prevalence, particularly in the residential sector. The Pew Research Center estimates that 36.6% of households rented their homes in 2016, showing a significant increase from 31.2% of households

[1] The Wireless Infrastructure Association ("WIA") is the principal organization representing companies that build, design, own, and manage wireless telecommunications facilities throughout the world. WIA's members include carriers, infrastructure providers, and professional services firms.

[2] *In re Improving Competitive Broadband Access to Multiple Tenant Environments*, Notice of Proposed Rulemaking and Declaratory Ruling, GN Docket No. 17-142 (rel. July 12, 2019) ("*NPRM*"). The *NPRM* defines "MTE" as "commercial or residential premises such as apartment buildings, condominium buildings, shopping malls, or cooperatives that are occupied by multiple entities," encompassing everything within the scope of two terms the Commission previously used—multiple dwelling unit and multiunit premises. *Id.* n.2.

[3] *See The FCC's 5G FAST Plan*, FED. COMMC'NS COMM'N, https://www.fcc.gov/5G (last visited July 3, 2019) ("Under Chairman Pai, the FCC is pursuing a comprehensive strategy to Facilitate America's Superiority in 5G Technology (the 5G FAST Plan). The Chairman's strategy includes three key components: (1) pushing more spectrum into the marketplace; (2) updating infrastructure policy; and (3) modernizing outdated regulations.").

[4] *NPRM* at ¶ 1.

renting ten years ago.[5] The National Multi-Family Housing Council (NMHC) estimates that forty-three percent of renting households live in buildings with five or more units.[6]

WIA members have significant experience deploying successful wireless networks in dense, complex MTE environments and continue to do so under the Commission's existing regime, bringing necessary coverage and capacity to MTE inhabitants. WIA member companies' deployments promote competition and access. In particular, many WIA members offer in-building DAS networks that follow a collocation model designed with full carrier access pathways in place, which mirrors the successful collocation approach that the Commission has supported for decades in the macro tower context. For example, one WIA member, which is a large operator of in-building DAS infrastructure, reports that over sixty-five percent of its deployments have more than one customer (*e.g.* communications service providers), and about twelve percent of its deployments host four or more customers. As a result, WIA recommends that the Commission maintain its current regulatory approach, which benefits MTE owners and tenants alike and already furthers the Commission's stated goals in the *NPRM*—fostering competition in the MTE environment while also encouraging infrastructure investment.

[5] Anthony Cilluffo, et al., *More U.S. households are renting than at any point in 50 years*, PEW RESEARCH CENTER (July 19, 2017), https://www.pewresearch.org/fact-tank/2017/07/19/more-u-s-households-are-renting-than-at-any-point-in-50-years/.

[6] *Quick Facts: Resident Demographics*, NAT'L MULTIFAMILY HOUS. COUNCIL, https://www.nmhc.org/research-insight/quick-facts-figures/quick-facts-resident-demographics/ (last visited Aug. 30, 2019).

I. THE WIRELESS INFRASTRUCTURE INDUSTRY PROMOTES BROADBAND ACCESS TO MTES.

The wireless infrastructure industry is committed to facilitating broadband deployment to MTEs so that residents can have greater opportunities and businesses can be more productive and competitive. Consumers have come to expect mobile connectivity everywhere—even in indoor environments like shopping malls and apartment buildings—and the wireless infrastructure industry stands helps deliver this connectivity.[7] Yet, reaching such MTE environments with wireless service can present complex connectivity issues. In general, radiofrequency ("RF") signals that carry wireless communications have difficulty penetrating into larger MTEs due to the commercial building materials used in their construction, such as concrete and steel, especially when operating at higher frequency bands that do not propagate as well as low-band spectrum. Moreover, while technological advancements in construction and building materials have helped reduce energy consumption, certain techniques—like using "Low-E" reflective glass—drastically reduces the RF signal penetration from outdoor antennas.[8] Even where adequate signal coverage exists, certain highly trafficked MTEs—such as shopping malls—may host many users attempting to access high-bandwidth applications simultaneously, which can stress the capacity of the network. Thus, WIA members work within MTEs not only to solve *coverage* issues inherent to providing in-building service, but also to alleviate *capacity* issues in busy areas.

The wireless industry currently finds itself in a process of rapid evolution that involves both new technologies ("5G") and new spectrum options, including mid-band, millimeter wave

[7] *See Ex Parte* Letter from NMHC at 2 (June 25, 2019) (asserting that ". . . satisfactory mobile coverage is a key factor in decisions by prospective residents and tenants; commercial tenants may even negotiate to include access to satisfactory mobile service for their employees as a lease obligation.").

[8] Patrick Lau, *Improve In-building Wireless Coverage with DAS*, REOPTIMIZER (Feb. 11, 2019, 8:31 AM), https://www.reoptimizer.com/real-estate-optimization-blog/improve-in-building-wireless-coverage-with-das.

bands, and unlicensed spectrum. This evolution is leading a market trend toward cellular and IP convergence, reflected in infrastructure trends, where traditional wireless (*e.g.*, cellular, public safety) increasingly coexists with IP-based (building automation, security, Wi-Fi access) products. To the extent that infrastructure is becoming more versatile, financial and operational benefits accrue to both building owners and service providers. However, many building owners lack the technical expertise and staff to implement integrated cellular/IP services for the benefit of their tenants. Synthesizing multiple service providers' needs into a single common set of standards, negotiating underlying contracts, and raising the necessary capital all require experience and expertise that go beyond most building owners' capacities and skill sets.[9] At the same time, building owners must balance their need for the latest communications technology against their responsibility to protect the quiet enjoyment of the premises for which their tenants pay rent, and ensure the continued safety and viability of their buildings, in which they hold significant interest and equity. To adequately balance these interests, MTE owners need the freedom to contract with infrastructure operators and service providers in a manner that will allow building tenants access to essential communications services while also protecting the property rights of the MTE owner.

A. WIA Members Provide Solutions to MTE Environments by Deploying In-Building Distributed Antenna Systems ("DAS") and Rooftop Antennas.

WIA members deploy solutions that provide connectivity inside MTEs and that reach nearby areas from MTE rooftops in a variety of different ways. Indeed, there are many types of deployments that make up the broader, "heterogeneous" wireless network, such as macro cell

[9] *Accord* NMHC Comments at 5, GN Docket No. 17-142 (July 24, 2017) ("MTE owners require flexibility to enter into agreements that promote ongoing maintenance and investment in new technology and communications infrastructure. Without the ability of property owners to enter into agreements that place maintenance responsibility on service providers, such responsibilities will be shifted to MTE owners who lack the technical expertise required for repairs and upgrades.").

sites, outdoor DAS, small cells, and Wi-Fi access points. WIA members provide these solutions, often customized for particular buildings, so quality wireless service can be delivered wherever consumers desire.

However, it is important to distinguish between in-building DAS and rooftop deployments. Rooftops are not considered part of the MTE environment. WIA members deploy macro antenna structures on rooftops, which are designed to operate like towers, so they generally do not service the building's tenants in the same manner as in-building DAS networks. Conflating rooftops and MTEs could have significant adverse implications for macro towers that would cause regulatory uncertainty and harm the industry. Rooftop deployments and MTE in-building DAS, therefore, are generally treated differently, and should continue to be treated differently.

1. DAS Networks Promote Connectivity and Competition.

WIA members have decades of experience delivering wireless service to MTEs through DAS networks deployed inside buildings. DAS networks typically support multiple service providers, and it is to their benefit to do so. DAS network architecture involves the delivery of wireless services over fiber optic lines between two fixed locations: (1) the "node" and (2) the "hub". The equipment comprising a typical node includes a small, low-power antenna, laser, and amplifier equipment for converting RF signals to optical signals (or vice versa). The hub, which is on the other end of the fiber optic line from the node, is a central location that contains such equipment as routers, switches, and signal conversion technology. In the case of in-building DAS, the hub is typically installed in a central location within the building, and nodes are distributed throughout the building as necessary to provide adequate signal coverage. A DAS

network is scalable; depending on the size and capacity needs of the MTE, a DAS network can include as few as two or as many as hundreds of nodes.[10]

In a neutral-host DAS model, the key to collocating multiple service providers is in the equipment room (the "hub"). This equipment room includes the equipment that converts the signal transmitted through the DAS and the carrier base station (the equipment that the carrier needs to send and receive their signal). In a typical configuration, the neutral-host DAS operator runs fiber from this equipment room to amplifiers or splitters, typically located on each floor of the building based on the building owner's or service provider's specifications. The neutral-host DAS operator then runs coaxial or CAT5 cable from the amplifiers to antennas throughout each area of the building in which its wireless carrier-customer wants coverage. In this instance, carriers can simply bring their radios to the equipment room and plug into the neutral-host's hub to use the DAS. Of course, there are other available configurations; for example, carriers can locate their radio equipment outside of the MTE and run fiber directly to the neutral host's hub.

2. **WIA Members Provide Rooftop Solutions.**

WIA members also frequently deploy or coordinate the collocation and deployment of antennas on MTE rooftops so that wireless providers can deliver wireless service to surrounding areas, particularly in densely populated locations. While these rooftop antennas do not typically reach mobile wireless users within the MTE, they can cover surrounding areas and neighborhoods, depending on the height of the structure. MTE rooftop-mounted antennas can obviate the need for a new tower by collocating antennas on an existing structure, efficiently using space and reducing visual clutter.

[10] *Distributed Antenna Systems (DAS) and Small Cells Distinguished*, HETNET FORUM (2013) at 4-5, *available at* https://www.hetnetforum.com/resources/send/2-resources/24-das-and-small-cell-technologies-distinguished.

B. DAS Networks Provide Solutions for Broadband Access and Adoption.

Consumers have come to depend on mobile wireless coverage and capacity wherever they are. By bringing wireless broadband to dense, difficult-to-reach indoor spaces, in-building DAS networks can promote broadband access and adoption by ensuring consistent coverage indoors. Recent trends indicate that consumers are depending more and more on their mobile devices to access the Internet, with some relying entirely on mobile devices. A Pew study released earlier this year found that 37% of adults mostly use a smartphone to access the Internet—a figure that has nearly doubled since 2013.[11] Moreover, Americans increasingly rely exclusively on their smartphones to get online—17% of adults are "smartphone-only Internet users," where the user does not have a high-speed connection in the home, a figure that has similarly doubled since 2013.[12] These trends underscore the importance of ensuring that high-speed wireless connections are available at home, especially for those consumers who reside in residential MTEs.

1. Neutral-Host DAS Networks Promote Competition in MTE Environments.

Many of the in-building DAS networks that WIA members deploy in MTEs are neutral-host DAS, as described above. Neutral-host DAS networks are beneficial to wireless deployment because this shared-infrastructure model lowers barriers to entry for new market participants and encourages broadband deployment by providing cost-savings and enhancing a carrier's speed to market. As noted above, one WIA member that is a large operator of in-building DAS infrastructure averages 2.2 carriers per deployment, with over sixty-five percent of

[11] Monica Anderson *Mobile Technology and Home Broadband 2019*, PEW RESEARCH CENTER (June 13, 2019), https://www.pewinternet.org/2019/06/13/mobile-technology-and-home-broadband-2019/.
[12] *Id.*

its deployments hosting more than one customer and about twelve percent of its deployments hosting four or more customers (*e.g.* carriers).[13]

Generally, a neutral-host DAS operator builds, manages, and maintains an in-building DAS system to facilitate infrastructure deployment, but it generally does not provide wireless services to end-users. With a neutral-host DAS, a third-party operator (note: carriers can also deploy neutral-host systems) builds out all or much of the underlying DAS network components, allowing customers, often wireless carriers, to share a common network backbone on the DAS—including fiber backhaul, power, remote amplifiers, and antennas—with each wireless carrier providing its own, centrally-located equipment at the hub. DAS customers are not just commercial wireless carriers—DAS networks can support other types of customers, including, but not limited to, Wi-Fi and CBRS.

Neutral-host DAS networks are often funded initially by a third-party operator or MTE owner. Carriers are commonly able to share the costs of deployment rather than individually bearing the entire cost. By streamlining connections, the cabling and equipment associated with neutral-host DAS networks also occupy less physical space within dense, space-constrained MTEs. Common infrastructure is also typically preferable for MTE owners and managers from an aesthetic perspective. As a result, neutral-host DAS networks shorten a carrier or service provider's time to market, streamline deployment requirements, and promote competition. Furthermore, many building owners do not have the requisite expertise to deploy networks, nor do they have the resources or time necessary for this significant task, so neutral-host operators offer critical services to meet building owners' needs.

[13] *See supra* p. 2.

2. DAS Networks Can Help Address Issues in Complex RF Environments.

Neutral-hosts provide options and solutions that take into account the complexities of serving specific buildings, such as by streamlining the process of bringing wireless coverage to a dense RF environment. Providing in-building wireless service for multiple wireless operators, each often operating in multiple frequency bands, presents a complex RF interference problem. The presence of other RF-emitting devices within the building, such as building-wide and/or unit-specific Wi-Fi access points and potential private two-way radios for building maintenance, can amplify RF interference issues. Further, LTE's advanced modulation schemes make interference more common over prior cellular technologies. One of the major factors of interference is Passive Intermodulation ("PIM"). PIM is self-interference caused by high power signals mixing together and causing interference, often at connectors or bent cables, antennas, or nearby metal objects. With more carriers on the network transmitting in many frequencies, the potential for PIM interference increases within the network. Consequently, it can be extremely complicated for a building owner attempting to deploy a DAS network or networks on its own.

Without an experienced RF professional designing the network, the possibility increases that interference can occur both from within the system and from external sources. A neutral-host DAS operator brings considerable experience in managing these complex RF issues on a building-by-building basis and can ensure that multiple carriers are able to operate seamlessly in an indoor environment. As explained above, a neutral-host, in-building DAS system can serve two or more carriers using the same system. Although multiple carriers deploying individual networks within a building can result in RF interference, DAS engineers work to remediate any RF interference issues that might arise from the collocation of multiple carriers.

C. Providing Connectivity to MTEs Involves Complex Financial Relationships.

As described above, deploying DAS networks to MTEs presents major, technical challenges, and it can be a complex and cumbersome process. As a result of this complexity, deploying an in-building DAS network involves a significant capital outlay. For example, the cost of painting and patching walls can be one of the largest, if not the largest, costs in certain buildings. Building owners, neutral-host operators, and carriers must also consider factors, such as asbestos remediation requirements, whether unionized labor must be used, and the costs of building head-ends. The installation of multiple, parallel DAS networks within a single MTE could introduce greater risks to the workforce and MTE occupants (*e.g.*, exposure to asbestos, lead, silica, etc.). Furthermore, building owners must balance their needs for the latest communications technology against their responsibility to protect the quiet enjoyment of the premises for which their tenants pay rent, and they must ensure the continued safety and viability of their buildings, in which they hold significant interest and equity. To adequately balance these interests, MTE owners need the freedom to contract with operators in a manner that will allow building tenants access to essential communications services while also protecting the property rights of the MTE owner.

The terms of these agreements, between building owners and DAS network operators, can help ensure that both are able to see returns on their investments. The term "exclusivity agreement,"[14] as used in the *NPRM*, does not accurately characterize the agreements made between DAS operators and building owners. Instead, these parties typically enter into "management agreements." Two of the main benefits these agreements provide to building owners are: 1) RF interference management, and 2) access management (i.e., managing access of

[14] *NPRM* at ¶¶21-23.

service providers to the building). This is true for DAS as well as rooftops. Indeed, as described above, it is to the benefit of the building owner to not have its building disturbed multiple times with multiple installations.

To offset the risks involved with such deployments, WIA members that deploy DAS facilities will often enter into contracts with an MTE owner for a term of years. These types of contracts can provide the infrastructure owner with some certainty that the investment can be recouped for a term of years without interference from others. The nature of these contracts ensures that wireless infrastructure is coordinated by one entity and deployed in an efficient, non-duplicative manner within the MTE. It also protects the deploying-company's investment by requiring any in-building wireless carrier deployment within the MTE to be via the existing DAS network and preserves a consistent level of coverage across all wireless carriers within the MTE.[15]

Many management agreements that grant a single entity the ability to install and operate a DAS network provide benefits because the agreements contemplate shared, neutral-host facilities. As described above, in such an arrangement, one entity installs the necessary backbone facilities, then markets the network to other customers, including but not limited to carriers, that can deploy their wireless services over the existing network facilities. Given the size and scale of some MTE buildings, infrastructure investment could be too costly for any one wireless carrier to undertake; infrastructure deployment would simply not occur but for the involvement of a third-party operator. In a neutral-host DAS deployment, wireless carrier-customers commonly cover a share of the capital costs of construction. Indeed, it is to the

[15] Wireless carrier deployments vary based on deployment decisions made by wireless carriers; though a DAS may be capable of supporting certain levels of capacity, a wireless carrier may choose not to deploy signal resources that utilize all of that capacity.

benefit of the neutral-host DAS operator to have multiple providers, which helps lower the cost of all providers involved and simultaneously promotes broadband deployment.

Many MTE building owners and managers conduct competitive procurement processes to identify a DAS operator. Wireless carriers commonly participate in these processes, alongside third-party operators. As part of the procurement process, MTE building owners will often require neutral-host facilities to be deployed as building owners are increasingly concerned with aesthetics. MTE building owners will also require ongoing compensation from the successful bidder, which in many cases takes the form of a revenue-sharing arrangement based on recurring payments from service providers (*e.g.* carriers).

The free market is working to provide benefits to MTE owners and customers (robust indoor wireless coverage and capacity) as well as DAS network operators (financial incentive to deploy in-building systems) and wireless carriers (reduced cost of entry and increased speed to market).[16] This marketplace allows private companies to come together to promote broadband services.

D. Rooftop Arrangements Help Promote Broadband Access and Adoption.

Similar benefits inure to arrangements to market rooftop space for collocating antenna facilities. WIA members also frequently deploy antennas on MTE rooftops and/or coordinate the deployment thereof. While these rooftop antennas do not typically reach mobile wireless users within the MTE, they do cover surrounding areas and neighborhoods, depending on the height of the structure. Moreover, these collocated antennas benefit the MTE owner by providing potential revenue streams for use of rooftop space. WIA members occasionally enter into agreements with MTE building owners to coordinate deployment of rooftop antenna facilities.

[16] WIA members report that the biggest factors delaying MTE deployments are actually due to processes and costs associated with obtaining permits and make ready work so that the MTE can accept the infrastructure.

MTE building owners often lack the expertise needed to ensure that rooftop antenna facilities are efficiently deployed and that they consider community aesthetic requirements. For example, WIA members have significant experience and expertise in deploying and coordinating deployment of such antennas, including stealthing of rooftop antenna deployments if necessary. In particular, where a neutral-host infrastructure operator has an agreement with a building owner, the neutral-host operator has an interest in marketing to and ultimately hosting as many carrier customers as possible, which allows the market to promote additional broadband deployment using existing structures. Furthermore, collocating antennas on an existing structure can obviate the need for new towers and reduces visual clutter.

II. THE COMMISSION SHOULD CONTINUE LETTING THE MARKET WORK.

As described in Section I above, the Commission's current light-touch regulatory approach to the deployment of in-building DAS networks and the collocation of antennas on MTE rooftops promotes competition and delivery of quality wireless service to consumers. Deviating from this approach, by imposing potentially burdensome regulations on the deployment of DAS networks or altering an operator's ability to recoup its investment through private contract, is not desirable. More importantly, however, there are serious doubts about the Commission's legal authority to regulate such contracts. Action by the Commission in this space could create undesirable, regulatory asymmetry, which would lead to regulatory arbitrage further dampening an already successful free-market practice that is working well to promote competition and incentivize investment in infrastructure. Therefore, the Commission should stay its current course and avoid unintended consequences by refraining from imposing additional regulations on network deployment in MTEs.

A. Jurisdictional Limits on the Commission's Authority.

Proposals to use disparate parts of the Commission's legal authority to impose regulations on common carriers and/or multichannel video programming distributors ("MVPDs") would not be widely applicable to all entities deploying facilities to an MTE and could create undesirable regulatory asymmetry. Notably, Section III.B of the *NPRM*, which addresses the in-building DAS and rooftops at issue here, does not ground its proposals in either the Communications Act or the Commission's rules. For example, efforts to regulate exclusivity agreements for DAS and rooftop installations under the Commission's Section 201 authority would be problematic because it would not apply equally to entities deploying these facilities. Section 201(a) provides that "[i]t shall be the duty of every ***common carrier*** engaged in interstate or foreign communication by wire or radio to furnish such communication service upon reasonable request therefor . . . ."[17] Section 201(b) mandates that "[a]ll charges, practices, classifications, and regulations for and in connection with such communication service, shall be just and reasonable . . . ."[18] Together, this section confers general authority on the Commission to regulate the practices of common carriers; however, most of the rooftop antenna management agreements are managed by entities that are not common carriers, such as tower companies and other non-common-carrier infrastructure operators. Similarly, some companies that build or manage an in-building DAS network may not be common carriers. Because not all relevant entities are subject to Section 201, it would be imprudent to impose this authority on certain operators, but not others, when those providers are deploying the same facilities.

[17] 47 U.S.C. § 201(a) (emphasis added).
[18] *Id.* § 201(b).

B. The Commission Should Avoid Regulatory Intervention.

Generally, MTE management agreements are necessary to give investors the confidence that they will be able to control and make the best use of their investments/existing infrastructure. The agreements entered into between MTE owners and companies providing in-building DAS or rooftop solutions are highly negotiated and address a number of key provisions as discussed above. Eliminating these agreements would disincentivize infrastructure investment because it would jeopardize an operator's ability to recoup its costs. Requiring publication of the existence of these agreements would run counter to the general right of private parties to contractual privacy and would ultimately do little or nothing for consumers. The Commission's limited jurisdiction would prevent it from effectively regulating much of these agreements, which would leave large enough gaps for parties to achieve exclusivity without expressly including it.

WIA also urges caution regarding other proposals in the *NPRM*. For example, the Commission asks about a requirement that an operator deploying a DAS network take into account the compatibility of the system with "potential future provider occupants."[19] A neutral-host, in-building DAS operator has significant incentives to make its network as technologically flexible as possible. For example, DAS networks can take many forms, including small cells and Distributed Radio Access Networks ("DRAN"), and Neutral Host Wi-Fi. Hence, DAS infrastructure is capable of not only supporting multiple customers, but also of evolving with advanced technologies including advancing from LTE to 5G. Additionally, the backbone of many DAS networks is fiber, which for the foreseeable future will continue to be utilized as one of the fastest methods to transmit large amounts of data. For that reason, neutral-host operators

[19] *NPRM* at ¶ 23.

are designing and installing DAS networks with enough fiber capacity to support both new cellular technologies as well as IP-based products. However, imposing a regulation that requires an in-building DAS network to anticipate "potential" future occupants would be difficult to define, and threatening companies with potential enforcement actions for failing to be adequately clairvoyant about potential future technologies would thwart deployment and investment. The issues with how to define the standard, much less how companies could comply, should demonstrate that such regulation is not appropriate.

Moreover, unnecessary regulatory action by the Commission in this segment of the MTE market could have other unintended consequences. For instance, Commission action to regulate in-building DAS networks could disrupt existing or planned in-building DAS networks that have been or will be deployed subject to existing agreements. Heavy-handed regulation could also negatively affect in-building public safety networks.

CONCLUSION

As WIA demonstrates, its members have successfully deployed and continue to deploy in-building DAS networks and collocated rooftop antennas to bring robust wireless coverage and capacity to those who live and work in MTEs. WIA avers that the Commission's current approach to MTE deployment is working well; any efforts to deviate from this approach could harm deployment by injecting regulatory uncertainty and imbalance into well-functioning processes. WIA members work with MTE owners to provide solutions, like in-building DAS, that inherently promote adoption and collocation while minimizing risks and disruption within MTEs. It is also important to note that rooftop deployments function more like macro cell deployments, so they are generally treated differently than in-building DAS. This distinction is important, and these two different types of deployments should continue to be treated differently.

WIA appreciates that the Commission is asking critical questions about increasing broadband access and adoption for MTE customers. The Commission should focus further actions on continuing to remove barriers to broadband deployment, clarifying terms, making new spectrum available, and analyzing ways to streamline the permitting process for in-building DAS networks. The Commission should accordingly maintain its current course and refrain from promulgating additional unnecessary regulations regarding MTEs that would create regulatory asymmetry and lead to regulatory arbitrage.

Respectfully submitted,

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